Amendments to the Claims:

Claim 1 (Currently amended) A computer system for calculating a pharmacokinetic behavior of a chemical substance in an insect <u>based on at least one physicochemical property of said chemical substance, the computer system</u> , comprising:

  a physiologically based pharmacokinetic simulation model [[(102)]] of said insect for predicting concentration/time profiles of the chemical substance ~~in compartments of the insect, the simulation model using at least one parameter which is dependent on the substance,~~ <u>the physiological based pharmacokinetic simulation model being represented by a system of coupled differential equations, the differential equations describing the mass transport, the distribution, the metabolism and the excretion of chemical substances in said insect on the basis of the following substance-dependent parameters: rate coefficients for mass transport between the organs of said insect, organ/haemolymph distribution coefficients, metabolism rate coefficients, and excretion rate coefficients;</u>

  <u>a database containing physicochemical properties and experimentally determined substance-dependent parameters of test substances;</u>

  a prediction module [[(110)]] for ~~predicting~~ <u>calculating</u> the ~~at least one~~ substance-dependent parameter<u>s of the chemical substance to be studied, which are required by the physiological based pharmacokinetic simulation model,</u> from at least one ~~on the basis of a~~ physicochemical property of the substance <u>by means of the relations stored in said database</u>

  an input/output module for input of <u>at least one</u> the physicochemical property of a <u>chemical</u> substance to be studied and for output of simulated concentration/time profiles <u>of the chemical substance</u> for a user of said computer system.

Claims 2-4 (canceled)

Claim 5 (Original) Computer system according to Claim 1, wherein said